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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,040	09/16/2005	Philipp Huemer	14219-083US1 P2002,0763 U	2757
26161 7590 10/12/2007 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER PATEL, DHARTI HARIDAS	
			ART UNIT 2836	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,040

Applicant(s)

HUEMER ET AL.

Examiner

Dharti H. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-12, and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Katsuki et al., Patent No. 6,188,307.

With respect to claim 1, Katsuki discloses an assembly [Fig. 5; col. 1 lines 9-13] comprising a first electrical component [Fig. 5, 25] having a first electrical polarity; a second electrical component [Fig. 5, 26] having a second electrical polarity, the first electrical property and the second electrical property being substantially identical [abstract lines 6-8; both thermistors 25 and 26 have resistance]; a housing [Fig. 5, 21] that holds the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26]; first terminals [Fig. 5, 30] on the housing that contact the first electrical component [Fig. 5, 25]; and second terminals [Fig. 5, 31] on the housing that contact the second electrical component [Fig. 5, 26]; wherein the housing has an underside [Fig. 5, bottom of housing 21]; wherein all terminals [Fig. 5, 30 and 31] of the assembly [Fig. 1, 21] are on the underside of the housing for surface-mounting the assembly [The apparatus is designed to be surface mounted to communication equipment such as telephone exchanges, which typically comprises electronics mounted on circuit boards]; and wherein the terminals have an arrangement that corresponds to an arrangement of

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contacts on a printed circuit board [Fig. 5; it is inherent that the terminals are printed circuit board connectable in the inline arrangement]; and wherein the housing has an upper side that protects the first electrical component and the second electrical component from a contact voltage [Fig. 5; both corners of upper side of housing 21 are insulated, and two spring terminals 32 and 33 are already contact-voltage proofed].

With respect to claim 2, Katsuki discloses that the first electrical component [Fig. 1, 5] and the second electrical component [Fig. 1, 6] comprise thermistors [col. 3 lines 65-67, abstract lines 3-4], and the first electrical property and the second electrical property comprise a first resistance and a second resistance, respectively, at a predefined temperature [col. 6 lines 32-35].

With respect to claim 3, Katsuki discloses that predefined temperature is 25 degrees Celsius [col. 6 lines 32-35].

With respect to claim 4, Katsuki discloses that the first resistance and the second resistance deviate by no more than 1 ohm [abstract lines 6-8, col. 1, lines 22-24].

With respect to claim 5, Katsuki discloses that a shape of the upper side is indicative of an orientation of the housing [Fig. 5 shows that the housing is rectangle, and the upper side has to be rectangular too to match with the housing].

With respect to claim 6, Katsuki discloses that the upper side of the housing is rectangular in shape [Fig. 5, housing 21 is rectangular as shown].

With respect to claim 8, Katsuki discloses that the upper side of the housing is closed [Fig. 5, the upper side of the housing 21 is closed as shown in fig. 5].

With respect to claim 9, Katsuki teaches that the housing comprises a partition [Fig. 5, 21c] made of electrically insulating material, the partition being between the first and second electrical components [Fig. 5, 25, 26], the partition acting as flashover protection between the first and second electrical components [Col. 5, lines 39-41, Fig. 1, 15, Col. 4, line 2, Col. 4, lines 21-24].

With respect to claim 10, Katsuki teaches that the housing [Fig. 5, 21] comprises plural sides, at least one side of the housing being closed [Fig. 5, 21; upper side of housing 21 is closed]:

With respect to claim 11, Katsuki teaches that the housing comprises a material that is substantially inflammable [col. 4 lines 3-7, the definition of thermoplastic resin is the material that offers high resistance to heat].

With respect to claim 12, Katsuki teaches that the first and second terminals [Fig. 5, 30 and 31] are configured for surface mounting of the assembly [Fig. 5, 21] as disclosed in Fig. 5.

With respect to claim 21, Katsuki teaches that the terminals [Fig. 5, 30 and 31] are arranged in such a way that the assembly can only be inserted on the printed circuit board in a certain orientation [It is inherent that terminals 30 and 31 are printed circuit board connectable in a certain orientation in the inline arrangement].

With respect to claim 22, Katsuki teaches that the terminals [Fig. 5, 30 and 31] are arranged in a first row of terminals [Fig. 5, first row made up of terminals 30] and a second row of terminals [Fig. 5, second row made up of terminals 31], wherein the

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second row of terminals is shifted in a horizontal direction with respect to the first row terminals.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al., Patent No. 5,867,083, in view of Katsuki et al., Patent No. 6,188,307. Takeuchi teaches a protective device for surge current protection of associated equipment in communications systems.

With respect to claim 13, circuitry [Fig. 8] comprising a first data transmission line [Fig. 8, A LINE]; a second transmission line [Fig. 8, B LINE]; a data terminal connected to the first and second data transmission lines [Col. 1, lines 28-32]; and an assembly [Fig. 8, made up of two thermistors 45a and 45b] that connects a printed circuit board [Col. 2, lines 21-23 shows that the thermistors are mounted on a PCB] to the first and second data transmission lines [Fig. 8, A and B lines], the assembly comprising a first electrical component [Fig. 8, 45a] having a first electrical property; and a second electrical component [Fig. 8, 45b] having a second property, the first electrical property and the second electrical property being substantially identical; wherein the first electrical component [Fig. 8, 45a] connects the first transmission line [Fig. 8, A LINE] to

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the printed circuit board, and the second electrical component [Fig. 8, 45b] connects the second transmission line [Fig. 8, B LINE] to the printed circuit board. However, Takeuchi does not disclose a housing that holds first and second electrical components, and that the housing has an underside.

Katsuki teaches an overcurrent-protection thermistor apparatus for protecting communications equipment. Katsuki teaches a housing [Fig. 5, 21] that holds the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26]; first terminals [Fig. 5, 30] on the housing that contact the first electrical component [Fig. 5, 25]; and second terminals [Fig. 5, 31] on the housing [Fig. 5, 21] that contact the second electrical component [Fig. 5, 26], wherein the housing has an underside [Fig. 5, bottom of housing 21]; wherein all terminals of the assembly are on the underside of the housing for surface-mounting the assembly [The apparatus is designed to be surface mounted to communication equipment such as telephone exchanges, which typically comprises electronics mounted on circuit boards]; wherein the first and second terminals [Fig. 5, 30 and 31] have an arrangement that corresponds to an arrangement of contacts on a printed circuit board [It is inherent that terminals 30-31 are printed circuit board connectable in the inline arrangement shown in Fig. 5]; and wherein the housing has an upper side that protects the first electrical component and the second electrical component from a contact voltage [Fig. 5; both corners of upper side of housing 21 are insulated, and two spring terminals 32 and 33 are already contact-voltage proofed].

Both teachings are analogous protection housings for telecommunication equipment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Katsuki, which teaches a housing and that the housing has an underside, with the overcurrent-protection thermistor apparatus of Takeuchi, for the widely known benefit of protecting sensitive telecommunications equipment from damage due to dust, moisture, and protection against mechanical intrusions; as well as to protect users from any possible shock hazard from exposed circuits.

With respect to claim 15, Takeuchi teaches that the first electrical component and the second electrical component [Fig. 8, 45a and 45b] comprise thermistors, and the first electrical property and the second electrical property comprise a first resistance and a second resistance, respectively, at a predefined temperature [Col. 1, lines 41-43, lines 54-56, 66-67, Col. 2, line 1].

With respect to claim 16, Katsuki teaches the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26] comprise thermistors having a first electrical property and a second electrical property comprise a first resistance and a second resistance, respectively, at a predefined temperature of 25 degree Celsius [Col. 6, lines 32-35].

With respect to claim 17, Katsuki teaches that the first resistance and the second resistance deviate by no more than 1 ohm [Abstract, lines 6-8, Col. 1, lines 22-24].

With respect to claim 18, Katsuki teaches that the housing [Fig. 1, 1] comprises a partition [Fig. 1, 15] made of a material that is substantially electrically insulating [Col. 4,

line 2], the partition [Fig. 1, 15] being between the first and second electrical components [Fig. 1, 5 and 6].

With respect to claim 19, Takeuchi teaches that the first data transmission line [Fig. 8, A LINE] and the second data transmission line [Fig. 8, B LINE] comprise telephone lines [Col. 1, lines 23-26, 28-32].

With respect to claim 20, Takeuchi teaches that circuitry further comprising the printed circuit board, the assembly [Fig. 8, made up of two thermistors 45a and 45b] being mounted on the printed circuit board [Col. 2, lines 21-23] via mating connections on the assembly and the printed circuit board.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki et al., Patent No. 6,188,307, in view of Smith et al., Patent No. 292,089.

Katsuki discloses that the assembly further comprises an upper side, but does not disclose that the upper side of the housing comprises a planar section.

With respect to claim 14, Smith teaches that the upper side [Fig. 6] of the housing comprises a planar section. Applicant's acknowledged prior art teaches that it is well known to use an automated component insertion machine to separately connect two matched thermistors to the respective telephone lines of a telephone connection on a printed circuit board [Page 2, lines 12-14].

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki et al., Patent No. 6,188,307, in view of Bach, Publication No. US 2002/0172259.

With respect to claim 24, Katsuki discloses an assembly [Fig. 5; col. 1 lines 9-13] comprising a first electrical component [Fig. 5, 25] having a first electrical polarity; a

second electrical component [Fig. 5, 26] having a second electrical polarity, the first electrical property and the second electrical property being substantially identical [abstract lines 6-8; both thermistors 25 and 26 have resistance]; a housing [Fig. 5, 21] that holds the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26]; first terminals [Fig. 5, 30] on the housing that contact the first electrical component [Fig. 5, 25]; and second terminals [Fig. 5, 31] on the housing that contact the second electrical component [Fig. 5, 26]; wherein the housing has an underside [Fig. 5, bottom of housing 21]; wherein all terminals [Fig. 5, 30 and 31] of the assembly [Fig. 1, 21] are on the underside of the housing for surface-mounting the assembly [The apparatus is designed to be surface mounted to communication equipment such as telephone exchanges, which typically comprises electronics mounted on circuit boards]; and wherein the terminals have an arrangement that corresponds to an arrangement of contacts on a printed circuit board [Fig. 5; it is inherent that the terminals are printed circuit board connectable in the inline arrangement], but does not disclose that the housing comprises a liquid crystal polymer (LCP) material.

Bach teaches a temperature sensor enclosed in a housing, and that that the housing comprises a liquid crystal polymer (LCP) material [page 3 par. 0026].

Katsuki and Bach disclose a temperature-measuring device inside a housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bach's temperature sensor in a housing made out of LCP, with Katsuki's assembly of temperature sensors, because liquid crystal polymer materials

have excellent thermal, electrical insulation properties and mechanical properties, as well as short injection molding times [Bach, par. 0026 – 0029].

Response to Arguments

Applicant's arguments filed 07/17/2007 have been fully considered but they are not persuasive.

Applicant comments on page 9 of REMARKS that Katsuki's insulating case [Fig. 5, 21] does not protect the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26] from contact voltage. The examiner notes that totally enclosed protection is not required in applicant's limitation; only a housing with an **upper side** that protects from contact voltage is positively required. As can be seen in Katsuki's Fig. 5, housing 21 shows three portions of the upper surface [one to the left of terminal 32, one between terminals 32 and 33, and one to the right of terminal 33] that, if so happened to be contacted by a live voltage wire, would protect the enclosed first and second electrical components [25 and 26].

Applicant argues on page 10 of REMARKS that the liquid crystal polymer [LCP] used in Bach's housing [of a temperature measuring device] cannot be combined with Katsuki's thermistor device. These arguments are not well founded for the following reasons: LCP is a housing material that offers its own thermal and electrical advantages, as well as short injection molding cycle times [par. 0026-0029]. The benefits of using LCP are explicitly stated here. Additionally, applicant has not invented the use of LCP in housings for electrical/electronics devices, applicant is merely citing the use of it as an optimum preferred material. Third, KSR holds that one of ordinary

skill is not limited to the exact problem area of the invention when attempting to solve a problem [in this case, what material to use for a housing?]. Rather, one of ordinary skill would look wherever similar problems existed at the time, and adapt it accordingly to his own invention. See KSR, 127 S. Ct. at 1742-43, 82 USPQ2d at 1397.

Based on examiner's best understanding, it is believed that the prior art references read on the amended claim language of independent claims 1, 13, and 24.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

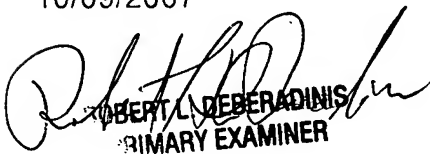
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dharti H. Patel whose telephone number is 571-272-8659. The examiner can normally be reached on 8:30am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800, Ext. 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dharti H. Patel/
GAU 2836
10/09/2007


ROBERT L. DEBERADINIS
PRIMARY EXAMINER